

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-10 (Canceled).

Claim 11 (New): A process for preparing propylene oxide, which comprises at least the steps (iii) and (iv)

(iii) separating off propylene oxide from a mixture (M1) comprising propylene oxide and at least one solvent by distillation in a distillation column, giving a bottom stream and a vapor stream consisting essentially of propylene oxide;

(iv) compressing the vapor stream obtained in (iii) by means of at least one compressor to give a compressed vapor.

Claim 12 (New): A process as claimed in claim 11, wherein the at least one solvent is methanol.

Claim 13 (New): A process as claimed in claim 11, wherein the distillation column used for the separation by distillation in (iii) is operated at a pressure in the range of from 450 to 750 mbar.

Claim 14 (New): A process as claimed in claim 11, wherein the compression of the vapor is carried out using a turbocompressor.

Claim 15 (New): A process as claimed in claim 11, wherein the vapor is compressed to a pressure in the range of from 2 to 5 bar in (iv) and the compressed vapor has a

temperature which is in a range of from 8 to 20°C above the temperature of the medium vaporizing in the distillation column in (iii).

Claim 16 (New): A process as claimed in claim 11, which additionally comprises the step (v)

(v) condensing the vapor obtained in (iv) and returning at least part of the heat of condensation to at least one vaporizer used in the distillation column employed in (iii).

Claim 17 (New): A process as claimed in claim 16, which additionally comprises the step (vi)

(vi) cooling at least part of the condensate obtained in (v) to a temperature in the range of from 10 to 30°C in at least one heat exchanger and returning this part of the cooled condensate as reflux to the distillation column used in (iii).

Claim 18 (New): A process as claimed in claim 17, wherein propene compressed in the at least one heat exchanger used in (vi) is vaporized completely with depressurization.

Claim 19 (New): A process as claimed in claim 11, wherein the energy stored in the bottom stream obtained in (iii) is at least partly used for heating the mixture (M1) before it is fractionally distilled in (iii).

Claim 20 (New): A process as claimed in claim 11, which additionally comprises the steps (i) and (ii)

- (i) reacting propene with hydrogen peroxide in the presence of a titanium silicalite catalyst and methanol as solvent to give a mixture (M0) comprising propylene oxide, unreacted propene and methanol;
- (ii) separating off the unreacted propene from the mixture (M0) to give a mixture (M1) comprising propylene oxide and methanol.

Claim 21 (New): A process for preparing propylene oxide, which comprises at least the steps (iii) and (iv)

(iii) separating off propylene oxide from a mixture (M1) comprising propylene oxide and at least one solvent by distillation in a distillation column, giving a bottom stream and a vapor stream consisting essentially of propylene oxide;

(iv) compressing the vapor stream obtained in (iii) by means of at least one compressor to give a compressed vapor,

wherein the at least one solvent is methanol.

Claim 22 (New): A process as claimed in claim 21, wherein the distillation column used for the separation by distillation in (iii) is operated at a pressure in the range of from 450 to 750 mbar.

Claim 23 (New): A process as claimed in claim 21, wherein the compression of the vapor is carried out using a turbocompressor.

Claim 24 (New): A process as claimed in claim 21, wherein the vapor is compressed to a pressure in the range of from 2 to 5 bar in (iv) and the compressed vapor has a

temperature which is in a range of from 8 to 20°C above the temperature of the medium vaporizing in the distillation column in (iii).

Claim 25 (New): A process as claimed in claim 21, which additionally comprises the step (v)

(v) condensing the vapor obtained in (iv) and returning at least part of the heat of condensation to at least one vaporizer used in the distillation column employed in (iii).

Claim 26 (New): A process as claimed in claim 25, which additionally comprises the step (vi):

(vi) cooling at least part of the condensate obtained in (v) to a temperature in the range of from 10 to 30°C in at least one heat exchanger and returning this part of the cooled condensate as reflux to the distillation column used in (iii).

Claim 27 (New): A process as claimed in claim 26, wherein propene compressed in the at least one heat exchanger used in (vi) is vaporized completely with depressurization.

Claim 28 (New): A process for preparing propylene oxide, which comprises at least the steps (iii) and (iv)

(iii) separating off propylene oxide from a mixture (M1) comprising propylene oxide and at least one solvent by distillation in a distillation column, giving a bottom stream and a vapor stream consisting essentially of propylene oxide;

(iv) compressing the vapor stream obtained in (iii) by means of at least one compressor to give a compressed vapor,

which additionally comprises the steps (i) and (ii)

(i) reacting propene with hydrogen peroxide in the presence of a titanium silicalite catalyst and methanol as solvent to give a mixture (M0) comprising propylene oxide, unreacted propene and methanol;

(ii) separating off the unreacted propene from the mixture (M0) to give a mixture (M1) comprising propylene oxide and methanol,

and the steps (v) and (vi)

(v) condensing the vapor obtained in (iv) and returning at least part of the heat of condensation to at least one vaporizer used in the distillation column employed in (iii), and

(vi) cooling at least part of the condensate obtained in (v) to a temperature in the range of from 10 to 30°C in at least one heat exchanger and returning this part of the cooled condensate as reflux to the distillation column used in (iii).